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Attorney Docket: 31141-101

JC/mej

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

Applicant:	Robert P. Bishop	Examiner:	H.M. Dreidame
Serial No:	10/821,697	Art Unit:	3635
Filed:	April 9, 2004	Confirm:	1539
For:	REMOVABLE TIE-DOWN CLIP AND METHOD OF MAKING SAME		

RULE 132 DECLARATION OF ROBERT P. BISHOP

Robert P. Bishop of Pembroke, Massachusetts, sole inventor/applicant of the above identified patent application, does declare as follows:

1. I am an engineer by profession (CV attached as Appendix A hereto) but have undertaken inventive activity independently of my regular employment with consent of my employer. Through my engineering career, eleven United States Patents have been granted in which I am the sole inventor or a co-inventor, all of which have been assigned to my employers. A patent, if granted on this application, will be the first patent owned by me. My invention, described and claimed therein, arose out of circumstances unrelated to my employment. In particular, I recognized faults of existing tie down structures for decks and the like as described in the Background of the Invention section of the application.
2. I needed a solution to a problem that I faced around my home. After finding nothing on the market to solve my problem:
 - a. I tried several different concepts and came up with an invention of my own that solved the problem. The initial problem was that on windy days, the outdoor furniture on my deck would be moved around. The grill would roll into the deck railings, tables would blow over, etc. Particularly annoying were heavy storm warnings, which would cause me to either move things inside or tie them against the railings so they wouldn't move around and cause damage.

- b. I was looking for a solution that would allow me to secure things (and tarps or other covers over things) to my deck without permanently modifying the deck, such as by attaching brackets or threading in screw-eyes, and would be easily removable so I could relocate the items whenever I wanted to or occasionally leave the items in place free of tied pins. Also, the fasteners of my invention install from the top of the deck quickly and easily and hold securely and do not damage the deck boards or cause cosmetic problems by leaving holes or marks after removal, thus meeting and solving further needs.
 - c. I considered several approaches to the problem/needs and arrived at the invention described and claimed in the application through analysis and experimentation and with great difficulty.
 - d. The invention ultimately made comprises a simple stainless steel clip for attaching that slides between the spaced deck boards, once clearing the deck thickness is twisted into place, and provides a loop to which one can hook or tie on bungee cords, ropes, etc. This evolved into the product I call *DECK-TIEDOWNTM*. I experimented with several types of fastening methods. I formed prototype tiedown loops out of brass rods (which I could easily shape at home with simple hand tools) and tested a number of iterations until I developed a design that was simple to install from the top surface of the deck, had the holding power I needed, and met my requirements of being removable, reusable, and leaving no permanent damage to the deck surface. Once I was satisfied with the final prototypes, I had production tooling produced by a wire former and made production parts of stainless steel. Several types of stainless steel were tested until we had a material that formed properly, maintained a spring load on the legs when installed, and met the strength and corrosion resistance design requirements, per further aspects of my invention.
3. After filing a provisional application (priority of which is claimed in the above identified application) I exhibited the product at the National Hardware Show and approached major retailers and manufacturers/distributors, and have had a favorable, indeed extraordinarily so, response to the invention.

4. One distributor serving over 21,000 stores in the U.S. and Canada, is now licensing the invention from me and prior to the licensing transaction purchased from me 32,000 clips covered by the claims of my pending patent application and produced 8,000 retail packages of 4 clips each. This customer/licensee advises that there is no comparable clip on the market and it expects good results from its licensed control/usage of the invention. It reports that it has units on trial at 100 stores of a major retail chain (Lowe's) and has recently made a shipment to a second major chain. When last queried, it reported that the stores have "wiped out all of the stock" and that it will need to replenish their inventory with parts of itsr own manufacture as soon as the licensing agreement is finalized. Because of the perceived value of this unique product, this distributor has agreed to a royalty in our licensing transaction that is 50% higher than the customary industry royalties.

5. The licensing agreement with the above noted manufacturer/distributor evolved from discussions with major retailers at and subsequent to the National Hardware Show. I eventually learned that a company like Lowe's or Home Depot would not purchase a product from a small independent producer.

a. After many months of discussions I learned that these major retailers work almost exclusively through large distributors who not only supply them with product, but also stock their shelves. It would be virtually impossible for a small home-based business to secure a contract with a major national retailer. After several discussions, and because of his strong interest in this product, the buyer for Lowe's asked if I would be willing to work through one of his suppliers and arranged discussions with a national hardware distributor which serves its chain of stores. After a full year of discussions it became clear that my only option was to license my invention to this manufacturer/distributor if I wanted to get my product onto the shelves of major national retailers.

b. My original plan of producing the product and selling it to the distributor for resale to its customers would not be profitable for either of us. It also became clear that each of these distributors is a formidable business with significant resources, and that I would not be able to produce product at the low cost levels they can achieve through their volume and/or offshore manufacturing sources. Understanding that, the

discussions evolved into this distributor buying a small production run to test market the product, after which, if tested successfully, they would license the invention from me and produce the product themselves to support their customer base.

6. As a result of my exhibit at the National Hardware Show, I made many contacts with major retailers. Many were interested, and I have developed a licensing agreement with a major hardware distributor to supply these retailers, as stated in (4) above.
 - a. The Home and Garden Television Station (HGTV) did an hour long television special featuring the best new products from the National Hardware Show, and the Deck-Tiedown the product was featured three times in the hour long show. Each time the show aired, my website -- <http://www.decktiedown.com> -- received thousands of hits, generating a large volume of mail order sales to individual consumers.
 - b. I received hundreds of emails from people telling me what a great idea it was, how it solved a problem they had never been able to solve, how they have never found anything like this, and how grateful they are to be able to buy this product. Many people have sent photographs of how they have used the clips and have told me that I can reference them and use them in my advertising. Two such testimonials are featured on my website <http://www.decktiedown.com>.
 - c. People have used these parts all over the country to secure items to decks, to attach covers over woodpiles to decks, to secure outdoor furniture during the winter, to attach items to docks, and even to attach above ground swimming pool covers to decks surrounding the pools. I have had a large number of repeat orders due to interest from friends and neighbors of the original purchaser.
 - d. It should be noted that because this is a home based business, I do not have an easy way for the general public to buy this product. People must download a form from my website and mail a check to purchase the product, which in today's world is an archaic, cumbersome system. Yet, people continue to go through that effort to get this unique product. One of the things I am most proud of is that I have never had a

bounced check, complaint, or request for refund with respect to this product. People need it, people buy it, and it works. There is nothing like it.

7. My testing of the product included long term corrosion and durability testing on stainless steel prototypes and engineering strength tests on production parts. Deck-Tiedown™ clips were installed in my deck and in a friend's boat dock and items secured to them. After over a year's worth of environmental exposure, no corrosion or degradation occurred and the parts held fast where installed. Other than slight discoloration, the parts looked as good as new. They had not become rusty or unsightly like so many other kinds of brackets and fasteners and did not need to be replaced from an aesthetics standpoint. The parts were removed and reinstalled and worked according to original design specifications. Once the production parts were manufactured from factory tooling, engineering tests were developed and pull tests were conducted to test the strength of the parts. The parts were installed in metal blocks to simulate deck boards and the loop was pulled with a force-deflection tool. No fractures or other breakage occurred, and it was found that several hundred pounds of force were required to deform the clips and have them pull out of the simulated deck. This proved that the clips were stronger than the other parts of any intended securing system (ropes, bungee cords, straps, etc.) and that the design would withstand the forces from the wind without breaking, deforming, or damaging the deck. Also, as stated in (6) (b) and (c) above, I have a significant amount of anecdotal evidence of successful real world applications testing done by purchasers of this product.

8. The present invention as described and claimed in the application is fulfilling a need that was long felt. It has had unusual commercial success for a product of a lone inventor and was quickly accepted without benefit of any significant advertising or other marketing expense by me.


9. It differs from cited prior art of the patent application in ways described in the July 13, 2007 response I filed in the application. The prior art of record in the application, long extant, did not achieve and could not achieve the success I describe above in connection with deck-tiedown needs. A claims chart format of comparison of claim 1 of the present application (the parent of all of the claims with prior art structures is provided at Appendix B hereto.

10. With due respect, I have contributed something of value. But I can only reap the benefit of my unique contribution and avoid suffering copying, without reward or remedy, by obtaining a patent for my invention which, on record evidence, is new, useful and unobvious. I note too that dependent claims 2, 4, 6, 8 and 10-15 of my application are similarly not anticipated or suggested by the references and further that the claim 8 added limitation of "engaging an opposing surface member" is not anticipated or suggested.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under Section 1001 of Title 18 of the United State Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Dated: 9/30, 2007

By:


ROBERT P. BISHOP, Applicant

Attachments: Appendices A and B, described above

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Appendix A

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Robert P. Bishop
14 Milbery Lane
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SUMMARY

Corporate Executive with experience in implementation of Lean Manufacturing / Continuous Improvement programs, joint development ventures, licensing agreements, acquisition evaluation, program management, product development, and all aspects of manufacturing operations and quality control. Direct experience in the transition from technology development to product development, the formation of product portfolio strategies, and manufacturing start-up programs. Industry experience includes design and production of high volume automotive sensors as an OEM, low volume laboratory instrumentation, and custom process control instrumentation. Operational experience includes implementation of lean manufacturing/lean enterprise, cost reduction and quality improvement programs, and identification and validation of new technologies and suppliers. Have also provided independent consulting services to several organizations and am currently a member of the Board of Directors of an educational / training organization. Author or co-author of eleven U.S. Patents.

EDUCATION**NORTHEASTERN UNIVERSITY**

Boston, MA

*Master of Business Administration (High-Tech MBA), September 1993.***MASSACHUSETTS INSTITUTE OF TECHNOLOGY**

Cambridge, MA

*Bachelor of Science in Mechanical Engineering, February 1985.***PROFESSIONAL EXPERIENCE****BROOKFIELD ENGINEERING LABORATORIES (BEL)**

Middleboro, MA

May 1994 - Present

*Vice President of Operations (10/01 - Present)**Manager of Engineering and Production Operations (3/00 - 10/01)**Manager of Engineering and Quality Assurance (2/98 - 3/00)**Engineering Manager (5/94 - 2/98)*

BEL is a privately held \$40+ Million dollar manufacturer of laboratory and process control instrumentation.

One of four corporate officers responsible for P&L, defining corporate objectives, developing strategies, and implementing tactics to achieve them. Directly responsible for the daily operation of the Engineering / R&D and Production Departments, including Assembly, Purchasing, Production Control, Machine Shop (internal supplier), Design Engineering (mechanical, electronic, firmware, software), Manufacturing Engineering, Drafting.

Major accomplishments include:

- Have grown operating profit, in both dollars and percent of revenue, each year since assuming this role.
- Reduced inventory by \$900K and assembly personnel by 20% (through attrition) in less than one year through implementation of Lean Manufacturing principles. Surpassed corporate profitability expectations through improved operational efficiencies, in spite of reduced revenues due to poor economic conditions.
- Implemented procedures and controls on the product development process, resulting in Brookfield Engineering achieving ISO 9001 certification during its first audit.
- Improved the new product introduction process by establishing the Manufacturing Engineering function,

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implementing concurrent engineering concepts, and requiring the use of validation procedures, resulting in unprecedented problem-free and on-time product introductions.

- Improved the efficiency and flexibility of the product development process by developing strong relationships with outside electronic, software, and mechanical design sources as supplement to internal resources.
- Member of the Building Committee, responsible for the design, construction, and relocation into a new 93,000 square foot, \$6.3 Million facility.

GREATER BOSTON MANUFACTURING PARTNERSHIP (GBMP)

October 2001 – Present

Member of Board of Directors

GBMP is an educational/consulting organization focused on helping small to medium size companies implement lean manufacturing/continuous improvement programs. GBMP is currently undergoing a transition from a government-funded organization to a stand-alone group financed through consulting and operational revenues. Member of Board's Strategic Planning Subcommittee.

ROBERT P. BISHOP, CONSULTANT

September 1997 – December 2001

Independent Consultant in the areas of general management, technology, and operations. Major Clients include:

Medical Air Products Group (A start-up company): Provided general management and marketing expertise, reverse-engineering of older products, design of new products, and development of manufacturing procedures. Addressed all technical and operational issues associated with a high-tech start-up organization.

Texas Instruments: During a nine month period, trained engineering and manufacturing personnel in product design, testing, validation, manufacturing, and process control issues through one-on-one sessions and group training seminars. Contributed to design projects and participated in design reviews and program reviews.

TEXAS INSTRUMENTS INCORPORATED

Attleboro, MA

February 1985 - May 1994

Strategic Project Manager / Member of Group Technical Staff (1993 - 1994)

Engineering Supervisor (1991 - 1993)

Design Engineer (1985 - 1991)

Managed a cross-functional team formed to accelerate the transition of new technology from R&D department to production. Executed successful program to develop new co-fired multi-layer ceramic pressure transducer in a previously unattainable time frame. Responsible for technology development, product development utilizing this technology, manufacturing strategy, and implementation. Major accomplishments included:

- Recruited and formed a twelve member multi-disciplinary team consisting of two R&D scientists, three design engineers, one manufacturing engineer, and six technicians.
- Met all program goals and achieved all technology and performance objectives on or ahead of schedule.
- Design and process development resulted in potential \$1.1 million/yr cost reduction relative to old technology.
- Avoided patent infringement issues with previous technology, opening new multi-million dollar markets to TI.

As an ***Engineering Supervisor***, directed a product development group consisting of 17 people. Responsible for all engineering support of a \$20 Million automotive sensor product line, including strategic planning of new product focus, competitive fitness assessment, efficiency improvements, next generation designs, supplier development, and interfacing with international TI locations. Required significant interaction with customers and with all levels of management within TI.

As a ***Design Engineer***, was responsible for all aspects involved in bringing new products from concept to production. Major accomplishments included:

- Developed the sensor package and manufacturing processes for TI's capacitive pressure transducers, which became a multi-million dollar business. Responsible for customer validation and production start-up of same.
- Led the design team in the development of high-pressure transducers, resulting in the first low cost custom high-pressure transducers available for the automotive and off-highway markets.
- Developed the first successful uses of ultrasonic welding and snap-fit assemblies in my group, pioneered the use of Surface Mount Technology (SMT) on flexible circuits, and implemented SMT at TI's Attleboro site.
- Co-authored two SAE (Society of Automotive Engineers) papers and presented one at annual SAE Congress.

BACKGROUND AND INTERESTS

Financed undergraduate education entirely through loans and part-time employment. Have excellent mechanical aptitude and wide range of "hands-on" experience. Hobbies include restoration of antique and classic sports cars, boating, camping, skiing, bicycling, basketball, and building construction. SAE member since 1986.

Appendix B - Claim 1 Comparison to Prior Art (Place and Hight, Jr. et al; ["Hight"]) References

CLAIM	COMMENTS ABOUT PRIOR ART
<p>A clip for securing objects at a top surface of a deck or the like, formed of an array of spaced-apart, parallel elongated members of substantially uniform thickness with sides of adjacent ones of the members substantially parallel to each other, the clip comprising:</p>	<p>Place's stated description in all text and in all claims is "A spring fastener intended for securing moldings in position, which fastener includes an expansible and contractible head as well as an expansible and contractible shank..." The product is intended to compress during installation and hold hollow moldings to a sheet metal or wooden automotive body, through holes in the surface. It is not intended to form a tie down loop for securing objects to a surface (deck) of spaced apart members.</p> <p>Neither the claims nor descriptions of Place or Hight provide for a clip to provide an <i>attachment point</i> for securing objects to a surface; Both provide for a spring fastener for attaching one object to another.</p> <p>Neither Place nor Hight meets the intention of the invention or the limitations of claim 1 herein.</p>
<p>an operative head formed by a substantially contiguous length of material bent into the aperture form and of hardness to resist distortion in installation and usage and adapted to receive connectors to an object in the aperture formed thereby having a maximum aperture span dimension greater than the spacing between the surface forming members in the space therebetween;</p>	<p>Each of Place's claims and related description in his specification and drawings is for a spring fastener or a snap fastener. He states, "A spring fastener intended for securing moldings in position, which fastener includes an <i>expansible and contractible head</i> as well as an <i>expansible and contractible shank...</i>" The limitation of "<i>an aperture ... to resist distortion</i>" in claim 1 herein is absent.</p> <p>Place's aperture is not adapted to receive connectors. The limitation of Claim 1 ("an operative head") is absent.</p>
<p>a pair of legs of said length of material extending from the aperture head, the legs each dimensioned to fit in the spacing between the surface</p>	<p>This is the only limitation of of claim 1 which Place would meet.</p>

forming members and to traverse the thickness of adjacent ones of the surface members in the space therebetween; and	
A pair of feet with one foot extending from each one of the pair of legs, the feet diverging from the thickness traversing direction of the legs in opposite directions to span a distance greater than the spacing between the surface members, the feet being constructed and arranged to lie flat against undersides of the adjacent members after the clip is passed through the said space between members in a first orientation, and the clip is rotated to a second orientation.	<p>The feet (Place's "head") are captured inside the contours of an automotive molding, which is pulled against the automotive body by the spring shank. This does not meet the limitation of claim 1 herein stating <i>"the feet being constructed and arranged to lie flat against the undersides of the adjacent members."</i></p> <p>Place's clip snaps into place and remains in one orientation, making it easily removable by pulling back on it. It is for attaching lightly loaded components. The clip of the present invention is installed and then rotated to prevent removal, so that it will securely hold items attached to its tie down loop under heavy load. Place does not meet the limitation of claim 1 herein stating that <i>"the clip is passed through the said space ... in a first orientation, and the clip is rotated to a second orientation."</i></p>

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